

ABSTRACT OF THE DISCLOSURE

It is an object of the present invention to provide a short-wavelength coherent light source that includes a semiconductor laser and a wavelength
5 converting device and is controlled to have a desired wavelength. The coherent light source includes the following: a semiconductor laser having a first wavelength; an optical waveguide-type QPM-SHG device used as a wavelength converting device for converting the wavelength of the semiconductor laser by half; a wavelength separating function; a diffraction
10 grating; and a photo-detector. The semiconductor laser beam acting as fundamental light is separated with the wavelength separating function, and the wavelength is controlled with the diffraction grating. Thus, the wavelength of harmonic light generated by wavelength conversion is controlled to a desired wavelength.